

**(D) Testing**

Vacuum test all manholes before grouting and backfilling. Test according to ASTM C1244.

**1525-4 MEASUREMENT AND PAYMENT**

The height of the manhole will be measured and paid to the nearest tenth of a foot from the inside bottom (invert) of the manhole to the final finished top of the manhole ring.

Utility manholes will be measured and paid by appropriate diameter per each for manholes of 0 to 6 ft height and per linear foot of height over 6 ft. No additional payment will be made for adjusting manholes to finished grade.

Drop assemblies will be incidental to the work being performed.

Payment will be made under:

**Pay Item**

\_\_\_' Dia Utility Manhole

Utility Manhole Wall \_\_\_' Dia

**Pay Unit**

Each

Linear Foot

**SECTION 1530****ABANDON OR REMOVE UTILITIES****1530-1 DESCRIPTION**

Abandon or remove utility facilities.

**1530-2 MATERIALS**

Refer to Division 10.

**Item**

Flowable Fill

Portland Cement Concrete

Select Materials

**Section**

1000-6

1000

1016

**1530-3 CONSTRUCTION METHODS**

Apply Section 1505 for excavation, trenching, pipe laying and backfill.

**(A) Abandoning Pipe**

Abandon utility pipes shown in the plans or designated by the Engineer by emptying the pipeline contents and plugging the ends with grout or flowable fill. Prepare grout to a consistency that will flow and be vibrated in order for the mix to flow uniformly into the pipe to be filled. Use the construction methods in Article 340-3.

Fill or remove the following abandoned utility pipes:

(1) Pipe larger than 24".

(2) Pipe located within the roadway typical section or the project slope stake line and one of the following:

(a) Pipe 12" to 24" diameter located less than 20 ft below finished grade.

(b) Pipe 6" to 12" diameter located less than 12 ft below finished grade and not made of cast iron, ductile iron, HDPE or PVC.

(c) Located below groundwater table that could become a conduit for water movement.

## Section 1530

Excavate, remove and dispose of properly any abandoned pipe to be removed. Backfill the resulting trench and properly compact using local excavated material or select backfill as required.

Fill abandoned pipe with grout or flowable fill to at least 90% full or completely when on railroad right of way.

Remove any abandoned utility pipe exposed by grading operations to a minimum depth of 12" below subgrade elevation of the proposed roadbed or completed grading template.

Plug all abandoned utility pipes. Use grout to plug all abandoned utility pipes at the entrance to all manholes whether the manhole is to be abandoned or not. Use grout to plug all abandoned water mains after new mains are placed in service.

### (B) Abandoning Manholes

Abandon utility manholes in the construction limits by removing the top of the manhole to the manhole spring line or to an elevation of 2 ft below the roadway subgrade, whichever is greater and filling the manhole barrel with approved material.

Plug connecting utility pipes before filling or removing the manhole.

Remove the manhole taper, wall and base on all manholes to be removed.

Removed frames and covers become the property of the Contractor for proper disposal.

### (C) Remove Water Meter

Remove water meters by disconnecting and plugging the water service piping at the source main and plugging the piping at the right-of-way line. Return the meter to the utility owner. Dispose of all other parts, piping and boxes.

### (D) Remove Fire Hydrant

Remove fire hydrants by disconnecting and plugging the hydrant leg piping as close to the water main as possible. If the hydrant valve is within 4 ft of the main, close the valve, plug the outlet side of the valve and remove the valve box.

Removed hydrants become the property of the Contractor for proper disposal.

## 1530-4 MEASUREMENT AND PAYMENT

Utility pipe that is abandoned by filling or removal will be measured and paid by the linear foot for the size of pipe. Utility pipe that is abandoned by plugging the ends only and leaving in place will not be measured or paid. Grout used for plugging of abandoned utility pipe is incidental to the work being performed. Utility pipe that is removed by other work of the contract will be incidental to the other work.

*Abandon Utility Manhole* will be measured and paid per each.

*Remove Utility Manhole* will be measured and paid per each.

*Remove Water Meter* and *Remove Fire Hydrant* will be measured and paid per each.

Payment will be made under:

#### Pay Item

Abandon \_\_\_" Utility Pipe  
Abandon Utility Manhole  
Remove Utility Manhole  
Remove Water Meter  
Remove Fire Hydrant

#### Pay Unit

Linear Foot  
Each  
Each  
Each  
Each